c. Customer-Affecting Issues

As summarized below and described more fully in the Declaration of Sherry Lichtenberg, a number of other customer-affecting issues associated with the loop provisioning process also impair the ability of competitors to serve customers using UNE-L.[184] These issues include deficient (or non-existent) processes and procedures governing customer service records, loop make-up information, directory listings, and local number portability.[185] Before it can conclude that UNE-L is a viable means of offering service to mass market customers, the Commission must ensure that these customer-affecting issues have been investigated and resolved.

i. LFACS

Today, as part of the pre-ordering process, a competitor queries the LFACS database to obtain loop make-up information and determine whether it can serve a customer. The competitive LEC needs to know, for example, if the customer's loop is all-copper (and can be unbundled), or is served through an IDLC system (which the incumbents claim cannot be unbundled and must instead be transferred to alternate facilities, if available), or whether the customer has fiber to the home.[186] It is thus critical that competitors be able to determine the make-up of the customer's loop in order to account for potential delays and provisioning issues when quoting due dates or offering

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184 Declaration of Sherry Lichtenberg ¶ 18, appended as Attachment D ("Lichtenberg Decl.").

185 Many of these problems were recognized in a recent proposed decision of an administrative law judge for the California commission. *See generally* California Proposed Decision.

186 Lichtenberg Decl. ¶ 18.

service packages (*i.e.*, no DSL).[187] As part of a trial test of UNE-L, MCI discovered a number of deficiencies in LFACS databases that must be remedied before competitors can use UNE-L to serve the mass market, including: (1) loop information is often either unavailable or inaccurate; (2) loop make-up information is inaccessible via an LFACS query once a loop is migrated to a competitive LEC; and (3) because competitors cannot reserve an available loop facility at the time of the LFACS query, the queried facility may be provisioned to serve another customer before the customer is migrated.[188]

ii. Directory listings

The directory listing process must be evaluated for efficiency in a UNE-L environment. As part of the UNE-L migration order, competitive LECs must send directory listing information to the incumbent LEC for inclusion in both the printed and on-line directories of each company.[189] Although an "as is" (*i.e.*, no change) directory listing can be ordered from the incumbent LEC for the first UNE-L migration, this process must be repeated with full information for each subsequent change, raising the likelihood of errors or deletions.[190] In addition, the sheer volume of directory changes that would exist if UNE-L becomes a viable mass market delivery method could have significant impacts on the directory publishing and operator services databases.[191] For example, even with the low volume of UNE-L orders experienced today, Cavalier

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187 *Id.*

188 *Id.* ¶¶ 21-22, 24. Although LFACS was evaluated during the section 271 process, testing was not performed in a systematic way or at anticipated UNE-L volumes, *id.* ¶ 20, nor did it involve testing for CLEC-to-CLEC migrations.

189 *Id.* ¶ 25.

190 *Id.*

191 *Id.*

Telephone Company recently filed for resolution of a dispute with Verizon over publication of directory listings for Cavalier customers that had been labeled "non-published."[192] Absent appropriate procedures to ensure that directory listings can be migrated "as is" among CLECs and the incumbent LEC, such problems will occur with increasing frequency in a UNE-L environment.[193]

iii. Exchange of CSRs

Obtaining accurate and complete customer information is essential to a competitive LEC's ability to submit a valid order requesting the migration of a customer to the competitor's switch. Customer service records ("CSRs") identify a migrating customer's name, service address, telephone number, current service and features, directory listing, and long-distance and intraLATA carriers, and, most importantly, the actual facility (circuit ID) serving the customer.[194] In the UNE-P environment, competitors can retrieve CSRs, which reside in the switch of the carrier serving the customer, from the incumbent LEC pre-ordering systems.[195] However, the systems and processes required to obtain and share this information among competitors in a UNE-L environment have not yet been developed.[196] As a result, in MCI's experience, it takes

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192 *Id.* ¶ 26.

193 *Id.* ¶ 28.

194 *Id.* ¶¶ 8-9. The winning CLEC will need the circuit ID, which is used to track the loop on the incumbent LEC's main distribution frame, to ensure that the same physical loop can be used to serve the migrating customer, thus avoiding the need for additional dispatches, delay and potential customer disruption. *Id.* ¶¶ 12-13.

195 *Id.* ¶ 10.

196 *Id.* ¶ 14; *see also* California Proposed Decision at 73 ("We agree with MCI that a system must be developed for the exchange of information as part of a CLEC-to-CLEC migration process.").

longer than three days on average to retrieve a CSR from another CLEC, and only 50% of requests are completed in a timely fashion. In comparison, it takes only a few seconds to retrieve customer information from the incumbent LEC.[197]

iv. Local number portability

The industry must ensure that number portability processes that are in place are coordinated and can handle mass market volumes. Today, the Number Portability Administration Center ("NPAC") handles the database updates necessary to determine the "home switch" for each UNE-L customer. Since UNE-P utilizes incumbent LEC switching, there is no need to send transactions for UNE-P migrations to NPAC, keeping the number administration task to a manageable level.[198] When a customer migrates to UNE-L, however, a transaction must be sent to NPAC to identify the "destination" switch for calls to the customer's number.[199] This process is largely untested for migrations to UNE-L, and it is not clear that NPAC will be able to handle the volume of transactions that will arise in a dynamic UNE-L marketplace.[200] If the NPAC process is not seamless, customers may experience service outages.

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197 Lichtenberg Decl. ¶ 11. As discussed more fully in the Lichtenberg Declaration, MCI proposes that the Commission establish a CSR clearinghouse that would function similarly to the current CARE clearinghouse. *See id.* ¶ 16.

198 *Id.* ¶¶ 29-30.

199 *Id.* ¶ 31.

200 *Id.* ¶¶ 30, 32-33; *see also* California Proposed Decision at 53 ("Both churn and the addition of wireless local number portability will raise the number of transactions process by the NPAC. It is questionable whether the NPAC can handle the volumes of transactions that would occur in a dynamic UNE-L market."). MCI recommends that the states sponsor collaborative discussions with Neustar, the NPAC administrator, to ensure that these requirements can be met. Among other concerns, these efforts will need to include volume or scalability testing. Lichtenberg Decl. ¶ 34.

4. Economic Barriers to UNE-L Deployment

In addition to the operational barriers to entry that in and of themselves constitute impairments, the economic factors that the Commission identified in the *Triennial Review Order* as impairments remain as well. Large up-front sunk costs, absolute cost or first-mover advantages enjoyed by incumbents, and other economic barriers create insurmountable barriers to entry in nearly every wire center nationwide.

A full analysis of the economic feasibility of competitive LEC market entry using self-supplied local switching in combination with UNE loops and transport will require the Commission to evaluate whether a UNE-L-based competitive LEC has a reasonable prospect of making a profit as a result of entering a particular market, taking into account the likely post-entry revenues and costs of the competitor, as well as the risk that it will not make a profit despite its best estimate that it will. The greater the uncertainty of entry, the less likely the competitive LEC is to enter.[201]

As discussed above in Section III.A.2.b. and explained in more detail below, because both costs and revenues vary significantly from wire center to wire center, the appropriate geographic market for examining economic impairment is the wire center. Further, the variation demonstrates the need for a granular analysis. In connection with the state proceedings resulting from the *Triennial Review Order*, MCI asked its consultant, MiCRA, to construct an appropriately granular model that permits analysis of economic barriers at the wire center level.[202] This model is structured in a user-friendly

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201 Pelcovits Decl. ¶ 55.

202 *See id.* ¶ 57. During the *Triennial Review* proceeding, MCI submitted an earlier economic model developed by MiCRA. The new MiCRA model is far more detailed and disaggregated than the earlier model. Among other refinements, the new model uses

manner that readily permits the entry of detailed, wire center-specific inputs for calculations, and clearly displays the results of these calculations in a series of "summary" worksheets.[203] In particular, the model calculates the investments required in each wire center for the competitive LEC to establish collocation and transport arrangements, as well as customer-specific investments and ongoing maintenance and recurring charges applicable to the provision of a range of services to residential, small business, and large business customers.[204] In addition to the costs and revenues associated with the provision of basic residential local exchange service, the MiCRA model also permits consideration of the costs and revenues associated with small business services, ADSL services, and services provided to enterprise customers, as well as different spending levels among residential telephone customers.[205] Moreover, the model can be customized to present a comparison of the range of possible outcomes in any two wire centers, with the most likely outcomes represented by the net revenue categories with the highest frequency.[206]

The MiCRA model will make it possible for the Commission to assess economic impairment at the wire-center level. Moreover, if the incumbent LECs argue for lack of

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state-specific UNE rates, retail rates, and customer demographics, and also considers any economies of scope from serving business and DSL customers with the same collocation and transport facilities. The new model is also provided entirely in spreadsheet format with all the formulas and (non-proprietary) data, which will allow the Commission and other parties to analyze the sensitivity of the results to the inputs.

203 *See* Pelcovits Decl. ¶¶ 92-99 (describing the structure of the MiCRA model, and explaining that a CD containing the model is provided with the Pelcovits Declaration).

204 *Id.* ¶ 57.

205 *Id.* ¶ 58.

206 *Id.* ¶ 99.

impairment in particular markets, the incumbents ought to be required to use the model and show that for a reasonable range of assumptions, competitive entry would exist. As explained in more detail below, the results of the MiCRA model demonstrate that it is not currently profitable for competitive LECs to use UNE-L to serve residential customers in the vast majority of wire centers.

a. Analysis of Cost Categories

A competitive LEC contemplating entering a particular market on a UNE-L basis must consider seven broad categories of cost:

1. loops;
2. switches;
3. the connection between the loop and the switch;
4. collocation of the competitive LEC's facilities in the incumbent LEC's wire center;
5. digitization, concentration and aggregation;
6. transport to the competitive LEC's switch; and
7. hot cuts.[207]

As the attached declaration of Dr. Pelcovits explains, each of these categories involves specific costs that can vary substantially from wire center to wire center.[208]

The cost of loops and transport, for example, vary according to the UNE rate zone in which each wire center is located.[209] Because transport rates generally are distance-

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207 *Id.* ¶ 59.

208 *See id.* ¶¶ 59-82 (describing in detail the specific costs associated with each of the seven broad cost categories).

sensitive, the length of haul from each wire center to the competitive LEC's switch or point of interconnection with the incumbent LEC's network also will affect costs on a wire center-specific basis.[210] Likewise, the cost of establishing a collocation depends on the type of collocation chosen by a competitive LEC.[211] A competitive LEC's costs also will vary depending on whether it leases transport from the incumbent LEC, or it already has transport in place.[212] Further, the particular demographic mix of customers varies by wire center, and may affect the ability of competitive LECs to recover their costs.[213]

Dr. Pelcovits also explains that a relatively large component of a UNE-L entrant's costs are fixed and/or sunk, including the costs of installing and configuring a switch,[214] the costs of establishing a collocation,[215] and the costs of leasing or self-provisioning transport.[216] Because of the large component of fixed and sunk costs incurred by the competitive LEC in each wire center, a competitive LEC must evaluate, on a wire center-by-wire center basis, whether the number of lines served by the wire center, and thus the number of customers that the competitive LEC may expect to acquire, is sufficient to allow the competitive LEC to recover its investment, and thereby justify a decision to enter that market.[217]

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209 *Id.* ¶¶ 60, 82.

210 *Id.* ¶ 82.

211 *Id.* ¶¶ 69-70.

212 *Id.* ¶ 78.

213 *Id.* ¶ 82.

214 *Id.* ¶¶ 61-62.

215 *Id.* ¶ 71.

216 *Id.* ¶ 78.

217 *Id.* ¶ 82.

b. Post-Entry Revenue Projections

To determine whether to serve a market using UNE-L, a competitive LEC must consider not only its costs, but also the likely revenues from the services it offers, including all categories of potential revenues.[218] Such revenue projections in turn depend on the prices that will likely prevail after a competitive LEC enters a market, and not on current prices.[219]

The entry of one or more UNE-L competitors into a particular market is likely to result in lower prices for several reasons. First, UNE-L entrants add new capacity to a market (*i.e.*, new switches and transport); unless other carriers are willing to have their facilities operate well below capacity, prices will have to fall.[220] Second, UNE-L (relative to UNE-P) involves higher sunk and lower marginal costs. The greater urgency that a UNE-L competitor faces in covering the sunk cost of entry – which can only be accomplished by having customers that contribute something, even a small amount, above marginal cost – creates a competitive environment that is much more likely to involve substantial price reductions, than in the environment of UNE-P competition.[221] Third, incumbent LECs have a strong incentive to reduce prices in response to entry by a UNE-L competitor. Because an incumbent LEC receives more UNE revenue from a UNE-P customer than from a UNE-L customer, an incumbent is worse off when a customer leaves it for a UNE-L CLEC than for a UNE-P CLEC and has a greater incentive to win the customer back. As a result, an incumbent LEC is more likely to cut

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218 *Triennial Review Order* ¶¶ 484-85; Pelcovits Decl. ¶ 83.

219 Pelcovits Decl. ¶¶ 84-86.

220 *Id.* ¶ 86.

221 *Id.* ¶ 87.

prices further in the face of UNE-L competition than UNE-P competition.[222] Fourth, as the market matures, and competitive LECs' offerings come to be regarded as closer and closer substitutes for traditional incumbent LEC offerings, price takes on greater importance as the locus of competition. The downward pressure on prices will be even more acute if multiple firms enter the market at the same time.[223] Finally, an incumbent LEC has a strong incentive to cut prices selectively by targeting cuts only to those portions of a market where entry exists or is threatened.[224]

As with the costs faced by prospective UNE-L entrants, the potential revenue available to such entrants varies substantially from wire center to wire center. Wire centers that serve a relatively high proportion of small business customers have larger potential revenues than wire centers that are predominantly residential. Wire centers with a more "upscale" demographic characteristic have larger potential revenues, due to greater second line penetration and greater penetration of additional services such as vertical features, voice mail and broadband services, than wire centers located in poorer neighborhoods. Wire centers with lower penetration of DLC systems may present a greater opportunity for competitive LEC sales of DSL services. All of these factors would be considered by a rational firm seeking to enter the market for mass market local exchange service, and should be a part of any analysis of potential deployment.[225]

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222 *Id.* ¶ 88.

223 *Id.* ¶ 89.

224 *Id.* ¶ 90.

225 *Id.* ¶ 91.

c. Results of MiCRA Model

The results of the MiCRA model, which were presented in a number of state proceedings, illustrate that competitive LEC profitability is highly variable among wire centers, and highly sensitive to the input assumptions chosen. Many wire centers, particularly small wire centers, wire centers with low concentrations of business customers, and wire centers located in rural areas, are not profitable for competitive LEC entry under any reasonable set of input assumptions. Other wire centers are only profitable under a relatively narrow set of input assumptions, but otherwise produce negative net revenue.[226]

The model's results demonstrate that the profitability of a UNE-L competitive LEC may vary significantly among wire centers even within the same local exchange area and within the same UNE density rate zone. For instance, the results show a very wide range of potential profitability across the 148 wire centers in which Verizon sought a finding of non-impairment in the top three density zones in Pennsylvania. Using values for the inputs that likely overestimate potential profitability, the model shows that only seven wire centers would yield positive profitability, and only with a very small margin of $2.29 per line per month in the most attractive wire center market, which is the Poplar wire center in Philadelphia. In all of the remaining 141 wire centers, the model demonstrates that the potential CLEC entrant would lose money, on average by almost $6.00 per month, per customer served.[227]

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226 *Id.* ¶ 100.

227 *Id.* ¶ 101.

The model also can be used to generate information on the range of possible outcomes facing a potential entrant. For instance, the results for one Nashville wire center (serving more than 35,000 lines within UNE rate zone 1) show that CLEC entry is profitable in only 41 percent of the simulations performed by the model, while entry in a second Nashville wire center (serving slightly more than 5,000 primarily residential lines in UNE rate zone 1) is profitable in only one of the 250 simulations performed.[228]

The model's results illustrate that CLEC profitability is highly sensitive to several key input assumptions. Among these are the assumed rate of customer churn, the costs of acquiring customers (the marketing, advertising and selling costs that must be incurred to develop a customer base), the cost to the CLEC of converting customers from the ILEC's service to the CLEC's service, and the price response of the ILEC to CLEC market entry.[229]

Finally, given the high risk that entry using self-provisioned switching will not be successful, CLECs will be unlikely to attempt this form of entry unless their expected return on invested capital is high. As the MiCRA model demonstrates, this is likely to occur in few, if any, wire center markets nationwide. Therefore, in the absence of unbundled local switching, it is likely that many areas will be left without competitive alternatives to the ILEC's local exchange service.[230]

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228 *Id.* ¶ 102.

229 *Id.* ¶ 103.

230 *Id.* ¶ 111.

5. Actual Deployment

As the Commission concluded in the *Triennial Review Order*, "the presence of facilities-based competitors [in a particular market] is the best indicator that requesting carriers are not impaired" in that market without access to unbundled circuit switching.[231] Evidence of actual deployment demonstrates "better than any other kind [of evidence] . . . . whether *new entrants*, as a practical matter, have surmounted barriers to entry in the relevant market."[232]

In the *Triennial Review Order*, the Commission determined that the assessment of actual commercial deployment of switching facilities to serve mass market customers would involve a "trigger analysis."[233] Under that trigger analysis, a finding of "no impairment" would be warranted in any geographic area where three or more unaffiliated competing carriers were serving mass market customers using their own switches.[234] The granularity requirements of *USTA I* and *USTA II* require that the trigger analysis be conducted market-by-market, and as MCI has explained, the appropriate geographic market in which to conduct the trigger analysis is the wire center.

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231 *Triennial Review Order* ¶ 498; *see also id.* ¶ 93 ("actual marketplace evidence is the most persuasive and useful kind of evidence" of impairment); Pelcovits Decl. ¶ 12 ("The best evidence of a lack of impairment is actual market entry."); *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, Third Report and Order and Fourth Further Notice of Proposed Rulemaking, 15 FCC Rcd 3696, ¶ 66 (1999) ("*UNE Remand Order*") ("we find the marketplace to be the most persuasive evidence of the actual availability of alternatives as a practical, economic, and operational matter."); *Local Competition Order* ¶ 411 (relying in part upon lack of competitive switch deployment to find impairment for unbundled switching).

232 *Triennial Review Order* ¶ 93 (emphasis in original).

233 *See id.* ¶¶ 501-503.

234 *Id.* ¶ 462; *see also id.* ¶ 501.

Experience with the trigger analysis in the state proceedings following the *Triennial Review Order* revealed that unlike the trigger analyses for high-capacity facilities, the trigger analysis for switching is complex and turns in large part on critical definitional determinations such as the "precise borders used for the market definition."[235] The trigger analysis for switching thus "forces an 'all or nothing' approach to the analysis of actual competition."[236] For example, if there is no requirement that a competitor serve a *de minimis* number of lines, a competitor providing service to only one or a handful of customers in a geographic area may be counted as a triggering company. Likewise, if three competitors that are providing service only to business customers and not to residential customers count as triggering companies in a given wire center, then residential customers in that market will be left with no competitive alternative other than the incumbent LEC. It is thus important to recognize that the trigger test, if not interpreted sensibly, "can lead to decisions that are nonsensical from the standpoint of actual consumer welfare."[237]

Nevertheless, in light of the Commission's stated desire to issue an order on remand before year's end, the Commission likely will seek to adopt an administratively practicable approach for assessing actual deployment that can be quickly and easily applied. The most logical candidate for such an approach is the local switching self-provisioning trigger adopted in the *Triennial Review Order*. The switching self-provisioning trigger is based on the conclusion that actual deployment is the best

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235 Pelcovits Decl. ¶ 25.

236 *Id.*

237 *Id.*

indicator of whether there is impairment, and it is designed to serve as a proxy for the presence of operational and economic barriers to entry.[238] Proper implementation of the switching trigger thus should result in a finding of non-impairment only where economic and operational barriers have been overcome.

During the state proceedings, however, it became clear that the incumbent LECs were applying the trigger analysis in a manner that made it a poor tool for determining where barriers to entry have been overcome. Oftentimes, MCI found that many lines identified by incumbent LECs as mass market lines were actually voice-grade loops purchased for enterprise customers that also used high-capacity loops, but might require a small number of voice-grade lines, for example, for fax lines.[239] In other cases, carriers that were no longer offering service, but continued to serve a declining base of grandfathered UNE-L lines, were counted. In addition, incumbent LECs relied almost exclusively on carriers that served small business, but not residential, customers to satisfy the switching trigger, despite the fact that such reliance would strand hundreds of millions of U.S. consumers without a competitive alternative for local service.

Properly applied, the trigger test should result in the same outcome that examination of the operational and economic barriers would produce. However, as discussed in more detail below, proper implementation requires careful consideration and proper resolution of several critical determinations in order to ensure that only those carriers whose presence demonstrates that economic and operational barriers have been overcome are counted toward trigger satisfaction. Companies counting toward the trigger

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238 *Triennial Review Order* ¶ 498.

239 As discussed below, these lines should be excluded from the trigger analysis because they are not lines used by mass market customers.

therefore should actively provide service to a meaningful number of residential customers using the ILEC's loop plant.

While an impairment analysis can be achieved within a time frame that is appropriately responsive to the *USTA II* mandate by applying the triggers as MCI describes below, as noted, the trigger test, even when properly refined, is necessarily imperfect. Accordingly, to the extent there is any doubt regarding whether a sufficient number of competitive alternatives exist to give consumers a meaningful choice of local providers, it is reasonable for the Commission to err on the side of finding impairment.[240] It is in this spirit that the Commission should seek to implement the switching trigger test.

Before undertaking its trigger analysis, however, the Commission must first define the universe of market participants that offer a service that is comparable to that offered by the incumbent LEC. As explained below, because the services offered by wireless carriers, cable providers, and VoIP providers are not comparable in terms of cost, quality, maturity, and ubiquity, those entities fail to provide a service that is a substitute for incumbent LEC wireline voice service. Moreover, because both wireless service and cable telephony are potential alternatives not simply for switching, but for the loop to the customer, and therefore do not require a hot cut to provision service, neither technology provides probative evidence of a carrier's ability to overcome the operational

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[240] In the long run, the Commission may consider adopting a more sophisticated approach to its impairment analysis that focuses on actual competitive deployment of switching facilities to serve mass market customers. *See Triennial Review Order* ¶ 501; *see also* Verizon legal memo, "CLECs Are Not Impaired without High Capacity Loops and Transport" at 1 n.2 (agreeing that "'FCC should focus on actual deployment of competitive facilities'" (citation omitted)), attached to *Ex Parte* Letter from Dolores May, Verizon, to Marlene Dortch, FCC, CC Docket 01-338 (July 29, 2004).

and economic barriers associated with UNE-L.[241] The deployment of cable telephony is not probative of impairment for the additional reason that a cable provider has the unique ability to leverage its existing cable television plant to provide service and therefore possesses first-mover advantages and scope economies not available to other new entrants.

a. Intermodal Competition

The presence of wireless carriers and cable telephony providers cannot form the basis for a finding of non-impairment. Wireless (including fixed wireless) and cable telephony services (including both traditional circuit-switched cable telephony and emerging packet-switched cable telephony) are relatively new compared to the wireline network, and neither is comparable in cost, quality, or maturity to the incumbent LEC's services. The public has been unwilling to abandon its wireline voice service for these technologies, and quality, reliability, and access to emergency services have not yet been proven to meet the mass market's needs. Only a tiny percentage of persons have given up their local landline service in exchange for wireless or cable telephony service. Even the BOCs do not believe their own rhetoric regarding the competitive significance of intermodal alternatives. SBC CEO Edward Whitacre stated in October 2003 that wireless, as developed as it is, is "not going to displace the wireline network" and is "never going to be the substitute [for wireline]. Reliability is one reason."[242]

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241 *See Triennial Review Order* ¶ 446.

242 "A Wireless World," BusinessWeek Online (Oct. 20, 2003), *available at*: <http://www.businessweek.com/@@CHIdWYUQe7BkoxcA/magazine/content/03_42/b3854611.htm> ("*A Wireless World*").

The consideration of intermodal alternatives has its basis in *USTA I*, in which the court required the Commission to consider intermodal alternatives when evaluating impairment. However, the court afforded the Commission wide latitude to determine the evidentiary weight, if any, to be assigned to particular types of intermodal deployment.[243] In the subsequent *Triennial Review Order*, the Commission made clear that evidence of intermodal deployment would not by itself be dispositive, and would be given weight only "[i]n appropriate instances,"[244] taking into account "limitations on the number or types of customers that can be served by a particular technology,"[245] as well as the extent to which such alternatives "are comparable in cost, quality, and maturity to incumbent LEC services."[246] The Commission explained that "the differences between intermodal alternatives and traditional wireline deployments may reduce the weight we give to the deployment of alternatives."[247]

Wireless and cable telephony services are not currently adequate substitutes for incumbent LEC services. Nor is a hot cut necessary to provision wireless or cable

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243 *USTA I*, 290 F.3d at 428-29; *see also USTA II*, 359 F.3d at 572-73 ("Whether the weight the FCC assigns to [intermodal deployment] is reasonable in a given context is a question that we need not decide"). Although cable and wireless historically have been identified as potential "intermodal" competitors, in its June 24, 2004 *ex parte*, Verizon also discusses competition from VoIP providers. Letter from S. Guyer, Verizon, to FCC Commissioners & attachment (June 24, 2004), filed with letter from Dolores May, Verizon to Marlene H. Dortch (June 24, 2004). As discussed below, VoIP service is not an example of intermodal competition.

244 *Triennial Review Order* ¶ 97; *see also id.* ("The fact that an entrant has deployed its own facilities – regardless of the technology chosen – *may* provide evidence that any barriers to entry can be overcome.") (emphasis added).

245 *Id.* ¶ 98.

246 *Id.* ¶¶ 97, 499 n.1549.

247 *Id.* ¶ 98.

telephony services. Accordingly, entry by wireless carriers and cable providers into the telecommunications marketplace is not evidence of actual deployment of the type that would lead to the conclusion that requesting carriers are not impaired without unbundled access to incumbent LEC switching. Thus, the deployment of wireless and cable telephony services does not constitute evidence of non-impairment.

i. Wireless

In the *Triennial Review Order*, the Commission found that CMRS fails to compete directly with traditional incumbent LEC local exchange service because of service quality, data rate, and ubiquity limitations.[248] As explained below, recent data confirm that is still the case. On remand, the Commission should find, as it did in the *Triennial Review Order*, that the presence of wireless competition should not be regarded as the type of actual deployment that would support a finding of lack of impairment.[249]

Although customers have shifted minutes (such as long-distance calls) to their wireless phones, only a small percentage of wireless customers have "cut the cord" by using their wireless phone as their only phone. In the *Triennial Review Order*, the Commission found that "only about three to five percent of CMRS subscribers use their service as a replacement for primary fixed voice wireline service, which indicates that wireless switches do not yet act broadly as an intermodal replacement for traditional wireline circuit switches."[250] The most recent data from the Commission and other sources confirms this conclusion. The Commission's recently released *Ninth Wireless*

248 *Id.* ¶ 230; *see also id.* ¶ 445.

249 *Id.* ¶ 499 n.1549.

250 *Id.* ¶ 445 (citations omitted); *see also id.* ¶¶ 53, 230.

Competition Report states that "only a small percent of wireless customers use their wireless phones as their only phone, and that relatively few wireless customers have 'cut the cord' in the sense of canceling their subscription to wireline telephone service."[251] Industry analysts have also found that despite the popularity of wireless phones, the vast majority of wireless subscribers are reluctant to replace their wireline phones altogether.[252]

A major reason for customers' reluctance to replace their wireline phones is that wireless service generally does not provide the quality of service that wireline customers have come to expect.[253] In the *Triennial Review Order*, for instance, the Commission relied on record evidence showing that wireless service can suffer from significantly lower call completion rates than wireline service, noting that "wireless service is engineered to provide only roughly 70% call completion rate while wireline call

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251 *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services*, WT Docket No. 04-111, Ninth Report, ¶ 212 (rel. Sept. 28, 2004) (FCC 04-216) ("*Ninth Wireless Competition Report*"); *see also id.* n.575 (citing a Census Bureau estimate that 5-6% of all households have wireless phones only).

252 *See, e.g.*, "Consumers Reluctant to 'Cut the Cord,'" Wireless News (June 27, 2004) ("While mobile phones are increasing in popularity, most consumers are not interested in 'cutting the cord' and replacing their landline altogether, according to high-tech research firm In-Stat/MDR.") (citing In-Stat/MDR Report, "Into Thin Air: Residential Wireline Erosion from Wireless and Other Access Alternatives"); Catherine Yang, "Telecom: The Day After," Business Week (June 28, 2004) ("Today, about 160 million Americans subscribe to wireless phones. Yet because cell phones are still unreliable, 95% of those subscribers hold onto their traditional wired local phone service, according to Yankee Group."); Mark Rodini, Michael R. Ward, and Glenn A. Woroch, "Going Mobile: Substitutability between Fixed and Mobile Access," 27 *Telecommunications Policy* 457-476 (2003) (the few users who have cut the cord are typically young and single).

253 *See, e.g., A Wireless World.*

completion rates exceed 99%."[254] Similarly, the Commission's *Eighth Wireless Competition Report* described a November 2002 survey conducted by the General Accounting Office in which:

> "a number of . . . respondents reported that they were experiencing specific problems." For example, "about one-third of customers could not complete 10 percent or more of their calls because they were in a cell where the carrier did not provide service." About 12 percent reported that such a problem occurred at least one-third of the time. In addition, just over 20 percent of respondents reported problems "getting a call through because [of a] fast busy signal or a message that says the call failed" or problems "with a call being cut off or dropped" at least 10 percent of the time."[255]

A 2003 survey conducted by the National Regulatory Research Institute similarly found that 28% of wireless customers are dissatisfied with their service provider.[256] That same survey indicated that, in the preceding twelve months, 23% of surveyed customers had contacted their service provider one or more times for dropped calls and that 20% had contracted their provider at least once to report static or line noise.[257] Further contributing to consumers' reluctance to cut the cord is the fact that wireless connections in general do not yet equal traditional wireline connections in their ability to handle data traffic and their ubiquity.[258]

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254 *Triennial Review Order* ¶¶ 230 n.702, 445 (citing AT&T Reply at 25, 162-63).

255 *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services*, Eighth Report, 18 FCC Rcd 14783, ¶ 88 (2003) ("*Eighth Wireless Competition Report*") (quoting *FCC Should Include Call Quality in Its Annual Report on Competition in Mobile Phone Services*, General Accounting Office, GAO-03-501, at 28, 42 (Apr. 2003)).

256 *Ninth Wireless Competition Report* ¶ 192.

257 *Ninth Wireless Competition Report* ¶ 193.

258 *Triennial Review Order* ¶¶ 230, 445 & n.1363 (finding that the record demonstrates that "wireless CMRS connections in general do not yet equal traditional

In addition to the fact that the vast majority of wireless customers are not willing to give up their wireline service, there are questions as to whether incumbent LEC-affiliated wireless carriers are even interested in having customers view wireless service as a substitute for wireline service. The two largest wireless providers – Verizon Wireless and Cingular – are owned by three of the four BOCs, and Sprint PCS is an incumbent LEC affiliate. As observers have noted, it is unlikely that the incumbent LECs will permit their sizeable wireless operations to cannibalize their profitable local wireline monopolies.[259] Instead, as confirmed by their statements, the incumbents have a strong financial incentive to perpetuate both the reality and the perception that wireless service is not a substitute for wireline voice service.[260]

Capacity constraints further limit the ability of wireless to become a substitute for wireline service on a mass scale. Wireless providers do not have the network capacity

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landline local loops in their quality, their ability to handle data traffic, and their ubiquity," and citing, *inter alia*, record evidence that wireless is ineffective in transmitting large amounts of data at high speeds).

259 *See, e.g.*, Lawrence J. Spiwak, "Phone Giants Keep Monopoly but Strive to Make It Regional" (Jan. 23, 2003), *available at*: <http://www.phoenix-center.org/DetroitNews 23January2003.PDF> ("[T]he largest wireless companies – Verizon Wireless and Cingular – are owned by three out of the four Bells. As such, the Bells have no intention of having their wireless operations cannibalize their profitable local wire-line monopolies.").

260 *See, e.g.*, Phoenix Policy Bulletin No. 11, "Higher Prices Expected from the Cingular/AT&T Wireless Merger," at 13 (May 2004), *available at*: <http://www.phoenix -center.org/PolicyBulletin/PCPB11Final.pdf> ("Given the dominance of the BOCs in wireline telephony . . . and now in mobile telephony, it seems inevitable that the price of wireless will rise. This price increase will limit the cannibalization of the BOCs' wireline business by its wireless service – an inherently rational strategy for the BOCs."); *A Wireless World* (quoting SBC's CEO).

necessary to provide the quantity of service typically demanded by wireline users, who generally generate about three times the busy-hour traffic of mobile wireless users.[261]

Fixed wireless service similarly is not a viable alternative to incumbent LEC wireline voice services, and does not support a finding of lack of impairment. As the Commission concluded in the *Triennial Review Order*, fixed wireless is a nascent technology, with limited availability,[262] that has "not proven to be viable or deployable on a mass market scale."[263] Fixed wireless (in combination with satellite) serves no more than 350,000 residential and small business customers,[264] and is likely to continue to play a limited role in the telecommunications marketplace. Indeed, since 2001, all of the major fixed wireless providers have either filed for reorganization under the bankruptcy laws or discontinued service.[265] These developments confirm that, at present and for the foreseeable future, fixed wireless is not a viable alternative to wireline voice service for mass market customers.[266] The Commission should reaffirm its conclusion that the

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261 HAI Report, Attachment A to WorldCom Comments, CC Docket No. 01-338, at 39 (Apr. 4, 2002).

262 *Triennial Review Order* ¶ 231.

263 *Id.* ¶ 310.

264 Industry Analysis and Technology Division, Wireline Competition Bureau, FCC, "High-Speed Services for Internet Access: Status as of December 31, 2003," Table 3 (June 2004), *available at*: <http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/hspd0604.pdf>. The relative percentage of mass market (high-speed) lines served by satellite and fixed wireless declined from 2.8% in 1999 to 1.3% in 2003. *Id.*, Chart 6.

265 *Eighth Wireless Competition Report*, Appendix A, at A-2 to A-4. Although many providers have emerged from bankruptcy, their plans to provide fixed wireless services have been scaled back significantly. Other major providers, including AT&T, MCI, and Sprint, have discontinued service. *Id.*

266 *Id.* To the extent that fixed wireless service is available, it is generally in areas not reached by cable or wireline broadband services.

existence of wireless providers (including fixed wireless) is not evidence of actual deployment capable of supporting a finding of lack of impairment.

ii. Cable Telephony

Because cable companies do not utilize the ILECs' loop plant to provide service and therefore do not require hot cuts to migrate customers, entry by a cable company does not provide any evidence about whether it is possible to enter using UNE-L. Furthermore, cable telephony, whether traditional circuit-switched or emerging packet-switched,[267] has not yet been deployed in a manner that allows it to function as a broad replacement for incumbent LEC local exchange service, and is not comparable to the incumbent LEC's local voice service in terms of cost, quality, and maturity. Accordingly, entry by cable companies into the telecommunications marketplace does not constitute evidence of actual deployment capable of supporting a finding of lack of impairment. Even if, assuming *arguendo*, cable companies were viewed as viable intermodal competitors, their presence would at best result in duopolies, not competitive local markets.

It appears that cable companies deploying telephony will be deploying packet-switched systems, rather than circuit-switched to serve residential customers.[268] Packet-

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[267] Facilities-based, packet-switched cable telephony is often identified as a VoIP service. However, VoIP is also used to refer to non-facilities-based, packet-switched telephony. To avoid confusion, MCI herein refers to facilities-based, packet-switched cable telephony as packet-switched cable telephony, and to non-facilities based, packet-switched telephony as VoIP.

[268] *See* Comcast Press Release, "Comcast Reports Second Quarter 2004 Results," at 2 (July 28, 2004), *available at*: <http://media.corporate-ir.net/media_files/irol/11/118591/Earnings_2Q04/cmcsa_072804.pdf> (Comcast's cable telephony subscribership

switched cable telephony, however, is not yet widely available, despite plans to introduce the service in multiple markets this year.[269] Comcast, for instance, currently offers the service only in certain trial markets,[270] and Cox Communications and Charter offer packetized cable telephony in at most a few markets.[271] Moreover, cable operators have not yet garnered a large number of customers for their packet-switched cable telephony products. According to a recent Communications Daily article, Cablevision has 71,000 subscribers, Time Warner, 20,000-25,000 subscribers, and Charter, 3,000 subscribers.[272]

Cable telephony's lack of maturity is shown by its extremely limited deployment, especially for packet-switched cable telephony. As to cost, some cable operators require consumers to purchase cable telephony as part of a bundle that includes either cable modem or cable TV.[273] Such bundling requirements render the cost of cable telephony significantly higher than the cost of incumbent LEC landline voice service, which can be

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fell over 3% in the first half of 2004, as a result of Comcast's initial transition to VoIP phone service).

269 *See* Alan Breznick, "Cable MSOs Pick Up VoIP Pace, Shrug Off Vonage," Communications Daily (May 24, 2004).

270 *See, e.g.*, Craig McGuire, "Comcast Sets VoIP Deadline" (May 27, 2004), *available at*: <http://www.internetnews.com/xSP/article.php/3360081> (Comcast to begin to offer VoIP in 2005 after testing in U.S. markets this year).

271 *See* Cox Communications, Inc., "Whitepaper: Voice over Internet Protocol: Ready for Prime Time," at 2 (May 2004), *available at*: <http://www.fcc.gov/oet/tac/7.28.04_TAC_Cox_VoIP_whitepaper.pdf> (VoIP launched in Roanoke, Virginia); Matt Stump, "More Operators Call on VoIP; Trio of MSOs Set Their Telephony Plans," Multichannel News at 3 (Sept. 6, 2004) (noting that Charter has tested VoIP in Wisconsin only).

272 Alan Breznick, "Cable MSOs Pick Up VoIP Pace, Shrug Off Vonage," Communications Daily (May 24, 2004).

273 *See, e.g.,* Cablevision's "Optimum Voice" offering, "exclusively for Optimum Online subscribers," *available at*: <http://www.optimumvoice.com>.